

L850 UP Series

Infrared LED Lamp

This series of L850-__UP is a AlGaAs LED mounted on a lead frame and encapsulated in various types of epoxy lens which offer different design settings.
 On forward bias, it emits a high power radiation of typical 26mW with a peak wavelength at 850nm.

Specifications

- | | |
|--------------------|-------------|
| 1. Chip material | AlGaAs |
| 2. Peak wavelength | 850nm |
| 3. Resin Material | Epoxy resin |
| 4. Solder | Lead free |



Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P_D	160	mW	$T_a=25^{\circ}\text{C}$
Forward Current	I_F	100	mA	$T_a=25^{\circ}\text{C}$
Pulse Forward Current	I_{FP}	1000	mA	$T_a=25^{\circ}\text{C}$
Reverse Voltage	V_R	5	V	$T_a=25^{\circ}\text{C}$
Operating Temperature	T_{OPR}	-40 ~ +100	$^{\circ}\text{C}$	$T_a=25^{\circ}\text{C}$
Storage Temperature	T_{STG}	-40 ~ +100	$^{\circ}\text{C}$	
Soldering Temperature	T_{SOL}	265	$^{\circ}\text{C}$	

Electro-Optical Characteristics ($T_a=25^{\circ}\text{C}$)

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V_F	$I_F=50\text{mA}$		1.5	1.7	V
Reverse Current	I_R	$V_R=5\text{V}$			10	μA
Total Radiated Power	P_O	$I_F=50\text{mA}$	20	26		mW
Peak Wavelength	λ_P	$I_F=50\text{mA}$	835	850	865	nm
Half Width	$\Delta\lambda$	$I_F=50\text{mA}$		40		nm
Rise Time	t_r	$I_F=50\text{mA}$		15		ns
Fall Time	t_f	$I_F=50\text{mA}$		10		ns

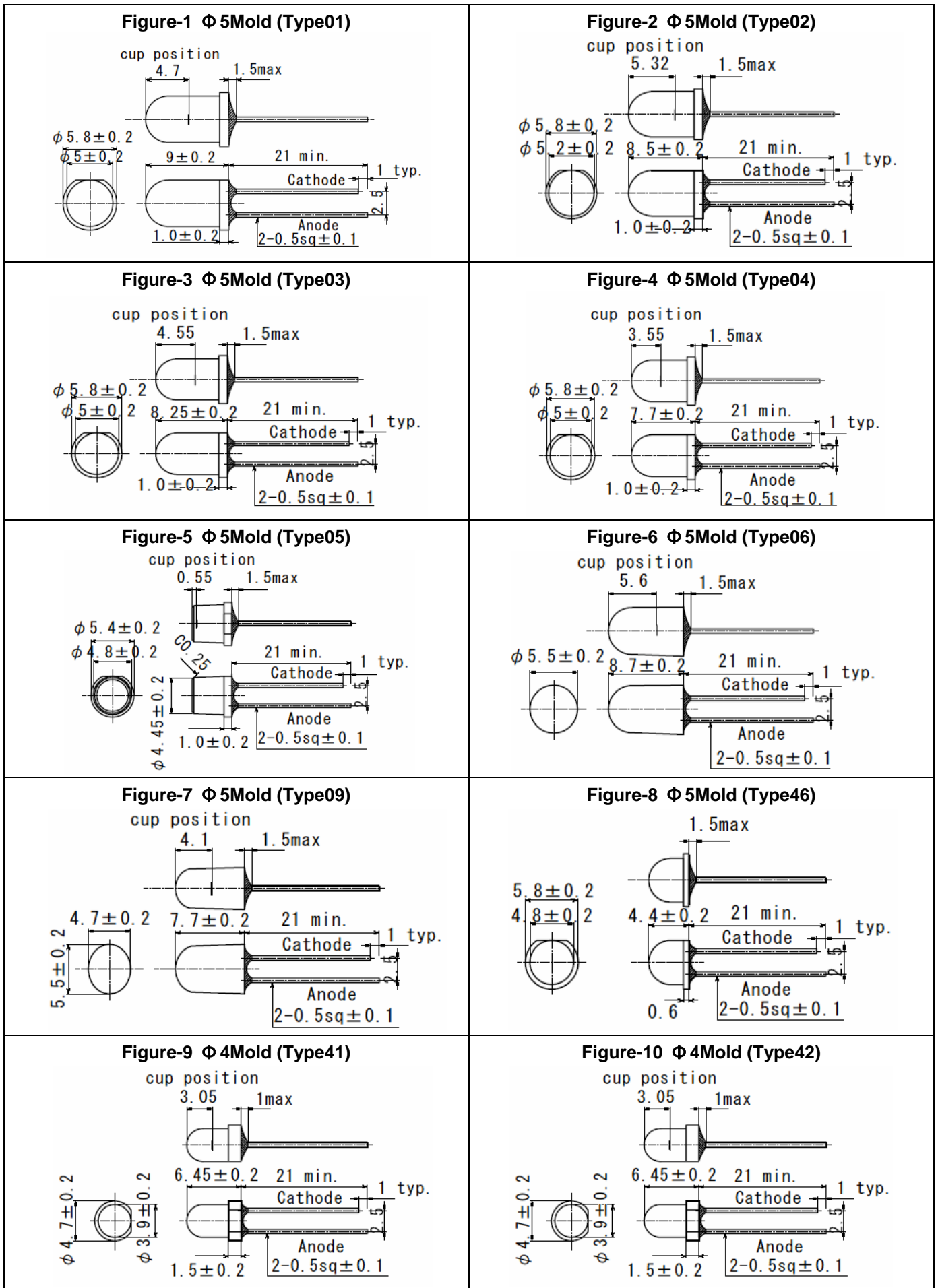
Characteristics of Radiant Intensity (Ta=25°C)

Type	Viewing Half Angle	Radiant Intensity I _F =50mA Unit : mW/sr			Outer Dimension	Dimension Figure
		Minimum	Typical	Maximum		
L850-01UP	±8°		100		Φ 5	1
L850-02UP	±4°		150		Φ 5	2
L850-03UP	±13°		100		Φ 5	3
L850-04UP	±18°		50		Φ 5	4
L850-05UP	±40°		15		Φ 5	5
L850-06UP	±4°		170		Φ 5	6
L850-09UP	±25°(Long) ±15°(Short)		75		Φ 5 Oval	7
L850-46UP					Φ 5	8
L850-41UP	±16°		80		Φ 4	9
L850-42UP	±23°		50		Φ 4	10
L850-31UP					Φ 3	11
L850-33UP	±15°		50		Φ 3	12
L850-34UP					Φ 3	13
L850-36UP	±30°		30		Φ 3	14

Brightness is measured by Tektronix J-16
 Total Radiant Power is measured by Photodyne #500

Outer Dimension of LED Lamp (1/2)

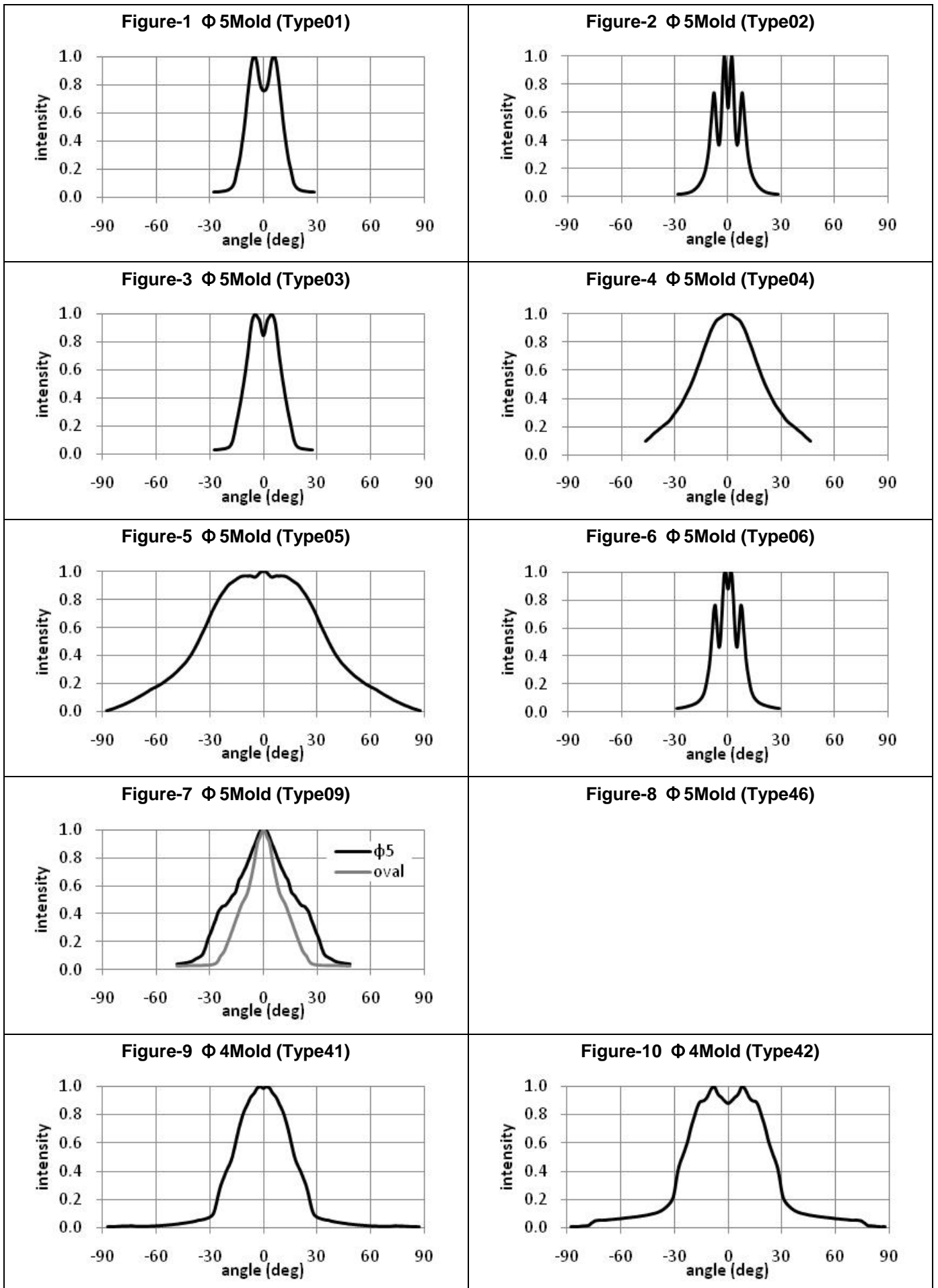
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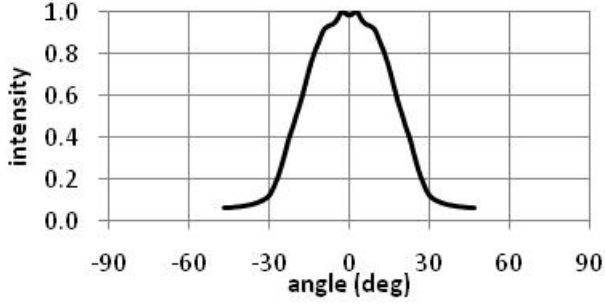
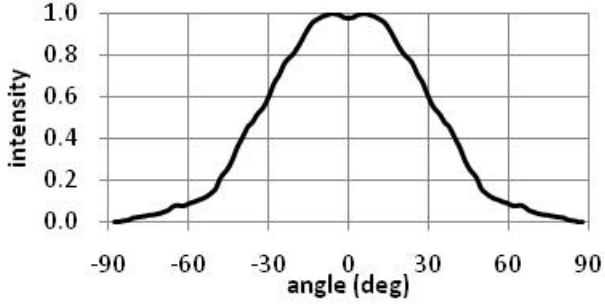
Outer Dimension of LED Lamp (2/2)

<p>Figure-11 Φ 3Mold (Type31) cup position</p> <p>0.37 1max 3.5±0.2 21 min. Cathode 1 typ. Anode 2-0.5sq±0.1 1.5 typ. ϕ 3.6±0.2 ϕ 3±0.2</p>	<p>Figure-12 Φ 3Mold (Type33) cup position</p> <p>2.65 1max ϕ 3.8±0.2 ϕ 3±0.2 5.3 21 min. Cathode 1 typ. Anode 2-0.5sq±0.1 0.8 typ.</p>
<p>Figure-13 Φ 3Mold (Type34) cup position</p> <p>3.25 1max ϕ 3.8±0.2 ϕ 3±0.2 5.3±0.2 21 min. Cathode 1 typ. Anode 2-0.5sq±0.1 1.5 typ.</p>	<p>Figure-14 Φ 3Mold (Type36) cup position</p> <p>2.1 1max ϕ 4±0.2 ϕ 3±0.2 5.3±0.2 21 min. Cathode 1 typ. Anode 2-0.5sq±0.1 2±0.4</p>
<p>Figure-15</p>	<p>Figure-16</p>
<p>Figure-17</p>	<p>Figure-18</p>
<p>Figure-19</p>	<p>Figure-20</p>

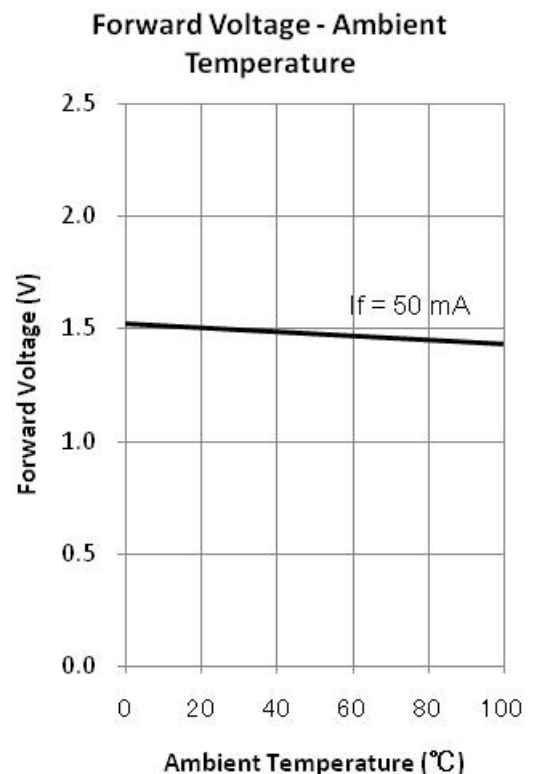
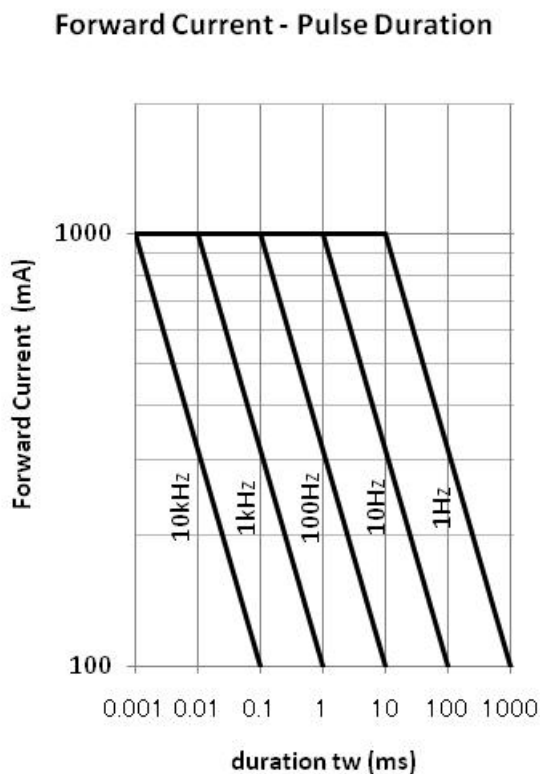
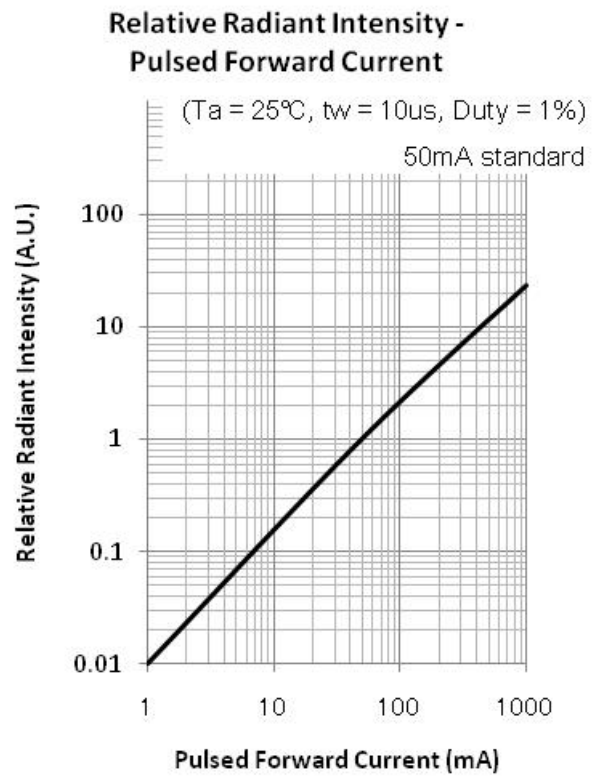
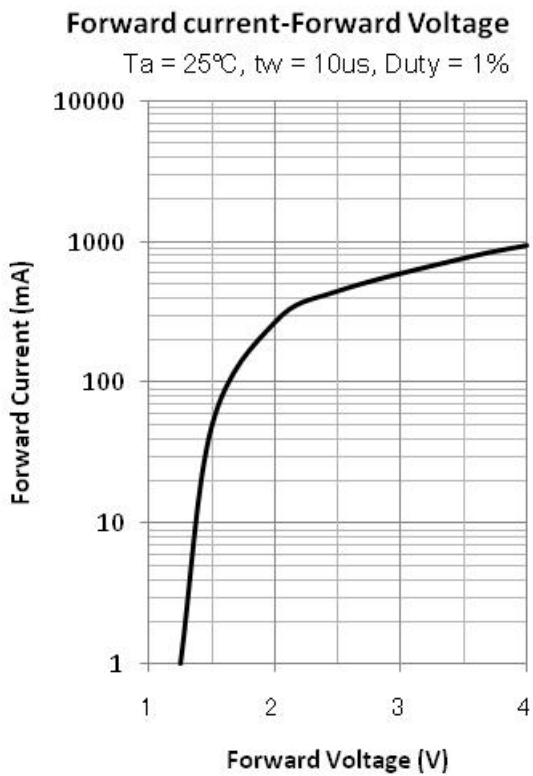
The Viewing half angle (1/2)



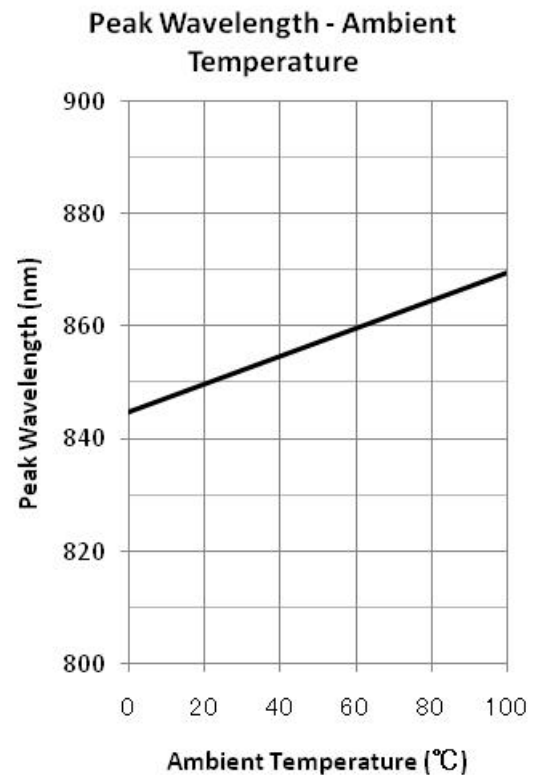
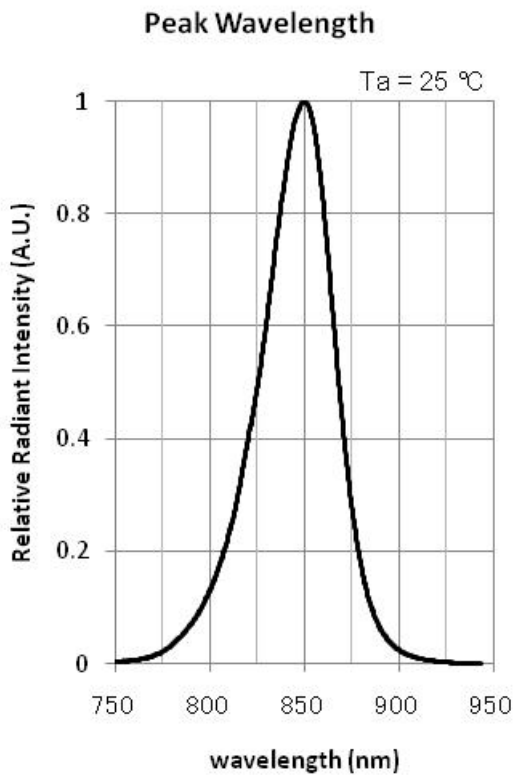
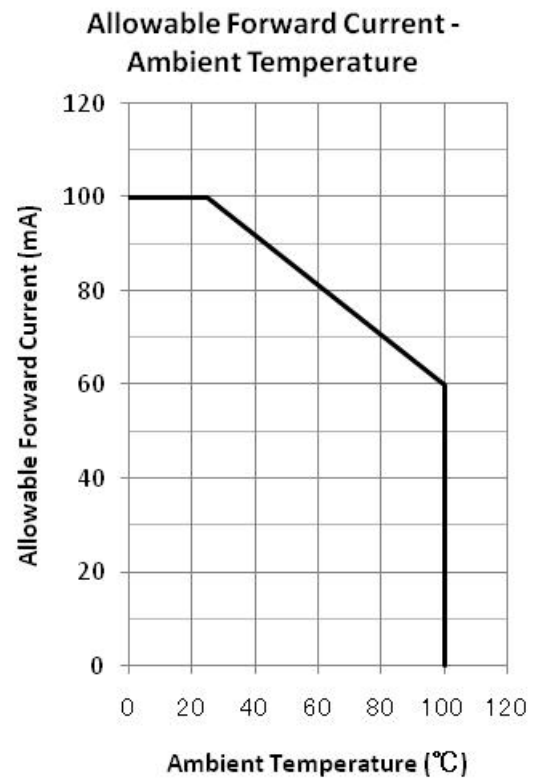
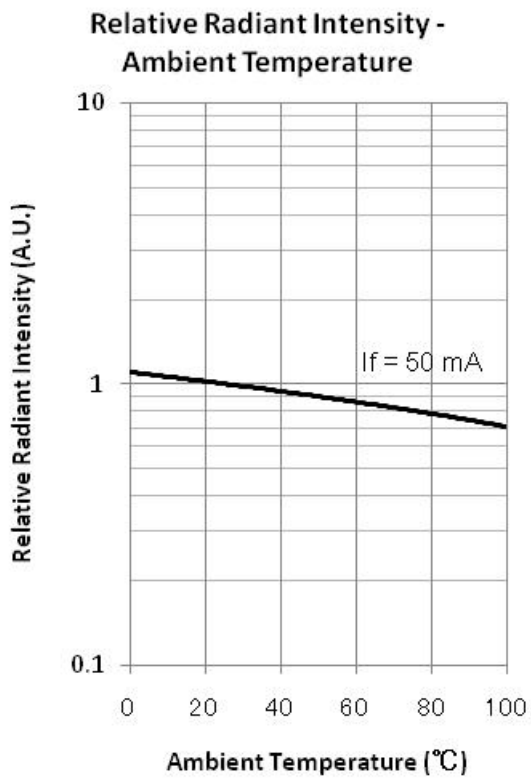
The Viewing half angle (2/2)

<p>Figure-11 Φ 3Mold (Type31)</p>	<p>Figure-12 Φ 3Mold (Type33)</p> 
<p>Figure-13 Φ 3Mold (Type34)</p>	<p>Figure-14 Φ 3Mold (Type36)</p> 
<p>Figure-15</p>	<p>Figure-16</p>
<p>Figure-17</p>	<p>Figure-18</p>
<p>Figure-19</p>	<p>Figure-20</p>

L850 UP Series Operating Characteristics (1/2)

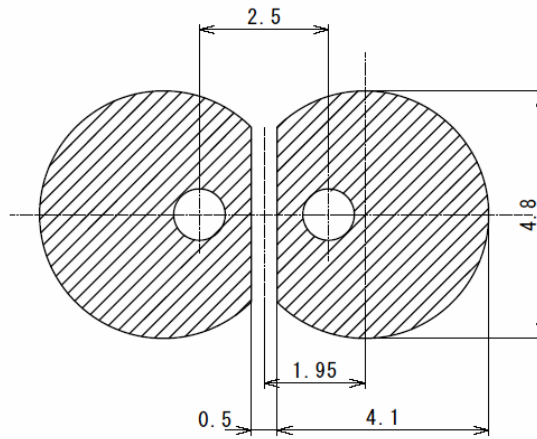


L850 UP Series Operating Characteristics (1/2)



Recommended Land Layout

Recommended Land Layout (unit: mm)



Soldering Conditions

